Collaborative improvement in Scottish GP clusters after the Quality and Outcomes Framework

Title: Collaborative improvement in Scottish GP clusters after the Quality and Outcomes Framework: a qualitative study

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Abstract

Background

Scotland abolished the Quality and Outcomes Framework (QOF) in April 2016, prior to implementing a new Scottish GP contract in April 2018. Since 2016, groups of practices (GP clusters) have been incentivised to meet regularly, to plan and organise quality improvement (QI) as part of this new direction in primary care policy.

Aim

To understand the organisation and perceived impact of GP clusters, including how they use quantitative data for improvement.

Design/Setting/Methods

Thematic analysis, of semi-structured interviews with key stakeholders (n=17) and observations of GP cluster meetings (n=6) in two clusters.

Results

There was uncertainty whether GP clusters should focus on activities generated internally or externally by the wider healthcare system (e.g. from Scottish Health Boards), although the two clusters we observed generally generated their own ideas and issues. Clusters operated with variable administrative/managerial and data support, and variable baseline leadership experience and QI skills. Qualitative approaches formed the focus of collaborative learning in cluster meetings, through sharing and discussion of member practices' own understandings and experiences. We observed less evidence of data analytics being championed in these meetings, partly because of barriers accessing the analytics data and existing data quality.

Conclusion

Cluster development would benefit from more consistent training and support for cluster leads in small group facilitation, leadership and QI expertise, and data analytics access and capacity. Whilst GP clusters are up and running, their impact is likely to be limited without further investment in developing capacity in these areas.

How this fits in

The Quality and Outcomes Framework dominated UK primary care quality improvement until recently, but as it has reduced in scale (abolished in Scotland), interest is growing in other ways to deliver improvements. This paper shows that in the post-QOF landscape, clusters are trying to improve the quality of healthcare across their member practices, working primarily to an internally-driven agenda, with limited access to national or local quantitative data on quality of care. Whilst GP clusters are up and running, their impact is likely to be limited without further investment in cluster development and capacity, particularly in relation to leadership, QI expertise, and data analytics access and capacity.

Introduction

Quality improvement (QI) is increasingly recognised to be integral to clinical practice.[1,2] In the UK, national initiatives to improve quality have included both externally-imposed pay-for-performance in the Quality and Outcomes Framework (QOF), alongside professionally led activity like the Royal College of General Practitioners' network of regional QI champions,[3] all of which operate in the current context of high demand, workforce shortages, and limited resources.[4]

GP clusters were created in Scotland when QOF was abolished in 2016. These are geographical groupings of practices, intended to deliver locality-based collaborative QI. Since 2017/2018, all Scottish GP practices have been members of one of 147 clusters, of differing sizes depending on local circumstances and geography. A cluster typically includes approximately four to eight practices with 20,000–40,000 registered patients,[5] regularly meeting to identify quality issues important in the locality, working collaboratively to meet the healthcare needs of their population (further information about these clusters can be found in the supplementary file).

GP clusters therefore represent a significant change from the top-down pay-for-performance of QOF to a locality-based approach to improving quality, similar to 'Quality Circles' which have a long history in European primary care.[6,7] The idea of clusters is consistent with previous and current Scottish health policy highlighting the value of professionalism,[8] in contrast with the more market-

orientated, central target-setting policies in England[9] where QOF continues (although in scaled-down form). But important commonalities exist across the current wave of primary care reforms across the four nations of the UK.[10] This includes an emphasis on better use of existing quantitative data/data analytics for primary care improvement[4, 11] (reflecting a prevalent wider assumption in the value of this in UK policy communities), but it is unclear whether and how GP clusters access or use data for improvement.

This qualitative study aimed to examine current improvement work and use of data in Scottish GP clusters, with a particular interest in whether and how quantitative data (e.g. from platforms like the Scottish Primary Care Information dashboards and Care Information Gateway[35, 36]) was used for improvement.

Methods

Overall design

We undertook qualitative analysis of interview and observational data collected from professionals involved in primary care improvement and/or GP clusters (referred to as 'improvers' throughout).

Sampling and recruitment

GP cluster professionals and other primary care improvers were purposively sampled to ensure heterogeneity in their work roles, in relation to level of involvement in improvement (national, regional, and local) and disciplinary perspective. Cluster Quality Leads (CQLs – GPs convening cluster meetings), Practice Quality Leads (PQLs – GPs from member practices attending cluster meetings), practice managers, health board managers/representatives were approached, alongside NHS LIST (National Health Service Local Intelligence Support Team) analysts – who are the main data analytics professionals currently involved from Public Health Scotland. Meetings of two clusters in one health board were also observed between Nov 2019 and Sep 2020 (with a gap during COVID-19 lockdown), sampled to be clusters perceived by health board managers to vary in their maturity.

Informed consent was taken at the time of interview, with participant information sheets shared beforehand. For observations, written informed consent was taken from all cluster members before observations started, and reaffirmed at subsequent meetings.

Data collection

Interviews were one to one, in-depth, and semi-structured - conducted with national and health board level improvers as well as cluster members working in the South East regions/localities. They were a mix of face to face and telephone interviews, complemented by non-participant observations of cluster meetings of the two participating clusters ('Corbett', 'Munro' – these are pseudonyms). The interviews explored participant perceptions of GP cluster work and the use of data in quality improvement in the cluster and more widely, complemented by the cluster meeting observations to better understand possible barriers and facilitators to data-driven improvement. Our semi-structured data collection was iteratively refined in light of emerging findings on these topics.[12, 13] Interviews were transcribed by GDPR-compliant transcribers, complementing contemporaneous field-notes made for the interviews and cluster meetings. Data collection started in late 2019 but was suspended from March to July 2020 due to COVID-19 (which meant that fewer observations and interviews were completed than originally planned). NVivo 12 Pro was used to manage data organisation and analysis.

Data analysis

Analysis drew on the interplay between our a priori ideas, and those emerging from our participants and field observations.[14, 15] In seeking to inform policy and practice decision making - we undertook a domain summary based approach to thematic analysis (organised under the 3 domains later on in the results), but focussed on capturing the 'essence of meaning' to the research team within the analytic narrative we tell for each of these major domains of interest.[16, 17] Drawing on participants' views of their improvement and data usage experiences in broad terms (and our research observations), data interpretation occurred through: (1) Data familiarisation; (2) Generation of codes (i.e. the initial 'units of meaning' developed by qualitative analysts;[18] (3) Searching for candidate themes in light of mutually compatible units of meaning from the data;[18, 19] (4) Reviewing these candidate themes; (5) Defining/redefining, and naming the final 'meaning units' and themes presented as results. The first author carried out all data collection, coding and analysis, with other co-authors also reading a selection of transcripts and/or contributing to the qualitative data analysis below.

Results

Seventeen primary care improvers participated in one-to-one interviews (lasting 30-145 minutes), of which seven were members of the two sampled GP clusters (Table 1). All interviewees had other professional roles alongside their primary care improvement roles. Six cluster meetings were observed (ranging between 40-90 minutes in length), with >20 cluster members observed overall.

Views from national/regional improvers in primary care

From a national perspective, the coming together of individual practices into clusters was likened to the bringing together of "five or six little ships … each starting with its own distinct practice culture and sometimes with 'a very strong ethos of us and them'" (P5). CQLs were perceived to be central in enabling practices to work together for some, but in context of uncertainty about what their cluster should focus on.

> "So you give [secondary care data] to GPs, but in a vacuum of not really knowing what they're supposed to be doing. And feeling quite potentially exposed. Because we [CQLs] don't know what this cluster is ... There's already an anxiety that at some point somebody's going to come along and say right, 'You've got to do quality assurance.' So you're going to have to mark your peers and the staff in the clusters. And start kind of telling your peers that they're not doing well enough." (P12, CQL involved in national work)

Developing a shared vision was seen as crucially dependent on the prior leadership and quality improvement experiences of their CQLs/PQLs:

> "I think there are some clusters that straight from the very beginning were very proactive … GPs involved in a lot of leadership at local or national level or done a lot of quality improvement work before, they seem to almost thrive in the cluster environment, knowing how to make changes, people to approach, how to go about things … Whereas some other clusters that had people who didn't really have that experience … were the ones that struggled initially ... still have a large amount of variety even today." (P15, GP involved in national work)

In buying into the vision of the GP cluster as a mechanism for data-driven primary care reform/improvement, national improvers perceived variations in cluster level engagement with the analytic resources and tools offered.

> “So, I guess this is where it’s probably still quite early days [for the clusters and data]. I think clusters and data are very related but they maybe don’t know it yet, maybe the clusters don’t know how important they are in this space yet.” (P6, NHS Health Scotland Officer)

National stakeholders also described variability in the support provided to GP clusters, with the potential to significantly affect their improvement activity. First, clusters receive varying amounts of administrative support from their Health Boards or Health and Social Care Partnerships. A CQL involved in national work (P12) observed that some but not all clusters had dedicated administrative support from their board (like in one of the two selected clusters we observed). A few clusters/boards also had quality improvement advisors working with them. Two of our national improvers (P12 and P5) both noted that the clusters which had struggled to find an effective way of working, often had minimal access to administrative support and external improvement expertise.

Secondly, the LIST data analytic support received varied between clusters and health boards:

> "Some GPs just haven’t heard of them [LIST analysts]. So in some places, it seems like LIST analysts have spent all their time with the HSCPs [Health and Social Care Partnerships], who have their own agenda, and their own stuff to do … big thing with HSCP is health and social care integration. So some GPs I’ve spoken to haven’t even heard of LIST analysts." (P5, an Academic GP)

On the other hand, for a senior LIST analyst looking after around eight clusters in a large territorial health board, the data work they do with the clusters seemed relatively straightforward.

> "I think just because the relationships built [are] quite strong, so they don’t feel like it’s too much hassle to ask us for data to help with any data, any projects” (P16, Senior LIST Information Analyst)

In summary, our interviews with improvers at the national/regional levels suggest considerable uncertainty from colleagues post-QOF, regarding whether clusters should focus primarily on activities generated internally or externally by the wider healthcare system. Variations in leadership and improvement experiences were also seen as crucial factors in developing a shared vision for each cluster, alongside variable buy-in, admin, and analytics support in the process of implementing data analytics for GP clusters (as observed by our participants).

Observation of cluster meetings

The cluster meetings we observed had agendas with both standing/reoccurring items and emerging issues usually raised by the CQL. In both clusters, meeting attendees came prepared to work together to solve problems identified and discussed by group members (both pre and post-COVID). But there were differences between the two clusters in the social dynamics of the group.

The social relationship between the CQL and other meeting members in Munro appeared to be free-flowing and close, with the conversation often ranging beyond topics strictly related to work, and peppered with jokes in good humour. One of the CQLs came across as more experienced in small group leadership and improvement. But the other cluster's CQL shared (in one-to-one interview) that they took the CQL role because nobody else had wanted to do it; this being their first wider leadership role, and in comparison also more commonly engaged in coaxing contributions from their group members.

Despite these differences in meeting dynamics, both clusters actively encouraged shared learning and development of local solutions, to problems members identified as important to them. Other than the move to an online method of meeting, the basic running/shape of all the cluster meetings were broadly similar - both before and after COVID-19 onset in March 2020.

In cluster meetings observed before COVID-19, both CQLs consistently strove to champion an improvement agenda, for example through leading discussion on the standing agenda item of learning from significant events. CQLs often were the first to share learning from their recent experiences in areas both more and less clearly related to improvement. Other examples of

improvement activity included cluster members discussing issues like the need to collectively absorb additional patients from the impending retirement of a single-handed GP (late 2019 meeting), and in sharing thoughts around further developing a mechanism to reduce the amount of patient-related correspondence GPs automatically receive that does not require GP input or response before being archived (early 2020). This could include, for example, screening normal results or certain types of hospital discharge letters.

However, there was less evidence of the data analytics policy aspiration being championed in these meetings. Quantitative data/quantitative ideas were mentioned only briefly, one example being a discussion in the Corbett cluster attended by non-member visitors, focused on how to address the cluster's status as an outlier in anticholinergic-prescribing. These external attendees shared their experiences of their own prescribing quality improvement project (in anticholinergic-prescribing), with the cluster ending up agreeing to further explore the potential of doing something similar. In the same meeting, the idea of a single point of access for palliative care referrals was presented in context of a possible improvement project for the cluster, by another pair of visitors to the group.

During COVID-19, cluster members valued cluster meetings for sharing learning, in managing rapidly changing ways of working. In a Corbett cluster meeting for example, sharing of recent experiences of significantly increased phone bills occurred, with discussion of the use of internet-based alternatives to traditional landline phones. In a Munro cluster meeting, members raised and discussed a shared concern around practices' stock control of personal protective equipment, and whether employees contracted to but 'external' to a practice could make use of the practice stock. Group members shared their rules of thumb with each other for this decision (in light of ambiguous policy guidance), concluding that a consistent policy for their cluster would be to offer PPE from the practice's stock only when the 'external' affiliated professional was not a shared resource across multiple surgeries, but affiliated only to their surgery.

From these observations, we can see evidence of internally driven shared learning in these clusters, focused on local problems important to member practices in serving their clinical populations. Some differences were observed between the two clusters, in their social dynamics and existing relationships between group members. Data analytics/quantitative ideas were occasionally used to

support the learning shared and observed in these meetings, but there was far more conversation around topics relating to improving the sustainability and quality of service provision. The CQLs often led these group discussions, sometimes letting the group dynamics take over in working through an agenda relevant to the day to day opportunities and challenges of their group.

Using data for improvement

In observation, communication and evidence sharing during the cluster meetings was largely qualitative, in that members usually described personal or practice experiences and plans, rather than referring to quantitative data on quality. However, members did express interest in quantitative data in their interviews. Our interview data provided further evidence for the top-down view on QOF – in suggesting that national and/or local Key Performance Indicators were indeed defined *for* Scottish practices previously, as part of QOF and other improvement schemes. Cluster members reflected on the lack of such indicators/definitions of 'good quality' in the new contract, leaving some uncertain how to compare the quality of their practice work against others. One practice manager for example suggested that some practices still used QOF indicators for their benchmarking, because they had performed well on these before.

In their interviews, both CQLs raised access to data as a significant barrier. Data security was perceived as overly complex and a major barrier to accessing nationally provided data tools.

> "So I can access data for my practice, I can't compare my practice against next door's practice, unless that data is available centrally and relatively easily accessible … flaming hoops and walk across hot coals to actually get access … I've lost my log in and I'm just not wanting to go through it again. It's not terribly accessible." (P13, a CQL)

One CQL suggested that a simpler single point of access, integrating improvement data with QI ideas/methods/practical resources, might also help.

> "If somehow I could just have one single sign on that would get me to all the data collection websites that were out there. Actually one website that's got everything pulled together

> because at the minute there's Scottish Therapeutics Utility, SPIRE, etc. So one website focused on quality improvement that's got the data there as well." (P3, a CQL)

As well as better access to data resources where cluster members could pull down data, a support manager working across multiple clusters suggested that enabling managers to also access existing data (or at least timely regular standard reports pushed out by LIST), would enable better integration of the available data analytics with existing cluster work/meeting cycles.

Cluster members were interested in quantitative comparisons across practices and clusters, but interviewees had concerns about data quality and coding. They were interested in comparisons between practices *within a cluster*, comparisons between clusters *within a health board/HSCP*, and in how a group of practices or clusters are performing in comparison to the rest of Scotland.

When pushed for clarification, one CQL said that data aggregated at cluster level would help their work most, because of the concern that focusing on outliers *within* a cluster might risk intra-cluster conflict from some members feeling vulnerable and attacked, whereas a whole cluster being an outlier could instead spur shared action. However, other clusters members said they could work with comparisons between practices in the cluster, if the quantitative data coming in was perceived to correctly reflect their own local circumstances.

In further discussing the topic, one GP (P9) shared a recurring theme in their conversations with Scottish colleagues around life after QOF, where primary care is seen to have evolved from a past position of general dis-engagement with the need to improve data quality to support large scale quantitative analysis, to a position of practices now becoming willing to do what they can to improve data quality by improving their clinical coding. Technological-variation between the two main Scottish clinical IT systems of EMIS and Vision were seen as significant (elsewhere in our interviews), in allowing practices to fine tune available clinical code sets to variation in specific local needs. Historical variability in practice level QOF-coding, and READ-codes training approaches, were also perceived by participants as drivers of current coding practices (READ-codes are a thesaurus of clinical terms widely used for coding of medical events/conditions/diagnoses/etc.)

Discussion

Summary

Since the abolition of QOF, some Scottish GP clusters face uncertainties in achieving a balance between internally and externally driven QI work. The two clusters we observed had both developed a primarily internally driven approach to their collaborative improvement, although both also invited external visitors to propose ideas for future improvement projects. The 'qualitative approach' to communication and evidence sharing we mentioned in the results refers to the sharing of non-numerical sources of information[34] as observed in these cluster meetings. In another words, evidencing a natural preference of these potential users of data analytics towards sharing and elaborating on tacit elements from their experiential/professional knowledge (difficult to comprehensively document and fully codify)[38], alongside limited use of explicit sources of knowledge in these meetings, e.g. in the form of the "hard [quantified] data" (P4) provided by data analytics platforms and quantitative data sources.

Key barriers identified by national/board improvers to further progress in collaborative improvement, included the variable administrative/managerial and data support, and leadership experience available to clusters. This was reflected in the way that the two clusters observed worked, in both providing a forum for shared learning and collaborative work facilitated through words and conversation. At a cluster level, participants in the larger project of collaborative improvement also generally remain interested in the idea of quantitative analytics. Key barriers to integrating and using such data in existing processes included difficulties in accessing data and concerns about data quality.

Both CQLs consistently strove to champion and facilitate the improvement agenda in their meetings, providing further evidence of 'normalisation'[20] and integration of quality improvement ideas, principles, and methods into contemporary clinical practice. In contrast, the data analytics aspiration of Scottish policy seemed to be at a comparatively earlier stage of development (both pre and during COVID-19). Our observations show that both clusters meanwhile worked together as internally driven, informal networks of local learning and peer support, to address the diverse problems and opportunities from their everyday work. Encouragingly this informal network persisted even in the

face of the recent pandemic, with members using the cluster to support each other in the face of rapidly changing needs. A key message from our interviews was that the use of data for collaborative improvement needs to take place with care, so as to benefit rather than harm the social dynamics of these clusters and the needs of their members.

Strengths and limitations

A strength of the current study is its use of both interview and observational data, and its iterative and adaptive approach to learning about the lived experiences of improvement work in Scottish GP clusters.[21] Limitations to 'reader generalisability'[22, 23] include the fact that the cluster meetings of only two GP clusters were observed, although these were purposively sampled to be at different levels of maturity in developing as productive social groups.[6, 7] We also did not collect data from the practices themselves, since the focus of our learning was on the clusters. But work to understand how cluster work translates into practice-based improvement will be important. Finally, COVID-19 disrupted the latter parts of our study recruitment, meaning that we did not recruit all of the 30+ study participants originally intended, but it was interesting to observe that the GP Cluster model did appear to help practices share learning in response to COVID-driven rapid change.

Comparison with existing literature

Similar to findings from a study involving Welsh cluster leads[24], some participants were also uncertain about how clusters will evolve. Uncertainty for these Welsh leads related to future funding arrangements for their clusters, but our study participants were concerned more with tensions around expectation for CQLs to 'police' or collaboratively engage with their cluster members. This tension could relate to cluster members' sense of loyalty towards their practices, in avoiding "change for change's sake".[25] The internally driven collaboration observed from our study is arguably a firm foundation, on which clusters can improve their integration with local public health and social care agencies, structures and processes.[24, 26]

A nationwide survey of Scottish GPs in the second half of 2018[27] found that participants believed that GP clusters were on average 'up and running', but needed more support to improve quality of

care. The current study shows that administrative and data analytics support for clusters is perceived to vary widely between clusters, as is the prior leadership and quality improvement experiences of CQLs/PQLs, implying a need for more training. The two clusters we observed were clearly 'up and running' in the sense of providing an internally driven, informal network of learning and peer support for members (both prior to and during COVID-19). But the maturity of the two clusters seemed a little different, in relation to both the prior leadership experiences of the two CQLs and varying history of prior collaboration between members.

Implications for research and/or practice

Better training and support for CQLs is likely to help drive forward the agenda for collaborative improvement in Scottish GP clusters. In particular, in developing CQLs' leadership, QI expertise, and access to/use of data analytics, perhaps in integration with training and development offerings and processes from local health boards. Such training likely needs to become a part of medical undergraduate and postgraduate education,[28] if collaborative working between practices is to become the 'new normal'. In context of the high service demand and limited workforce/delivery capacity,[4] additional administrative/managerial support would undoubtedly help to support the delivery of service improvement via clusters.

Whilst the redefinition/reconceptualisation of complex interventions (e.g. data analytics for primary care, GP clusters) is normal for professional and lay participants in healthcare,[29] it is useful to pause to reflect on where we are up to in both the expected and unexpected outcomes of the current interventions,[30-32] in light of a Scottish improvement landscape in flux. Measures for improvement was still regarded as key by some study participants. But cluster members' persisting interest in practice level through to national comparisons are currently stymied by a complicated and burdensome situation. These issues of data access may in part explain the focus on more qualitative ways of sharing knowledge and learning we observed (drawing on experiential and professional knowledge), in context of existing drivers like safety checklists, practice culture/professional ethos, and health system infrastructure. Whilst LIST analysts are starting to become 'one of us' for some clusters, the extent to which this is occurring seems inconsistent across the country.

Whilst practices are 'up and running' in clusters across the country, there seems to be emerging tensions within Scotland. On the one hand, our data shows evidence of *localised* frameworks of quality improvement developing at a cluster level,[11] being created through these emerging inter-practice collaborations, and the iterative approach to small-scale change, learning, and adaptation[33] we observed. But pushing data analytics into these clusters risks negative effects on small group dynamics, relationships, and future appetite for collaboration, through formal comparisons between members.

Further research questions might seek to understand: a) What is the proper balance between internally vs externally generated ideas, measures, and activities for improvement? b) What is the acceptable balance of quantitative and qualitative data[34] in light of these user preferences[37] for more qualitative ways of sharing knowledge and learning (from a user centred technology research perspective)? c) How can the added value from data analytics be harnessed in a setting where tensions emerge from the socio-political dynamics of local vs national governance of improvement and healthcare more broadly? d) In light of the sort of collaborative improvement and learning we saw, how can data analytics be harnessed to enrich the learning and group dynamics of an emerging organisational unit (the GP cluster), to encompass both sources of everyday success and failure in maintaining safety?[39]

In context of the Scottish model, this should help transform quality improvement from driven mainly by its 'clinical elites', into the wider policy vision for data-enabled grassroots change, whilst avoiding reinventing the QOF under another name.

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Ethical approval

Our study was approved by the University of Dundee School of Medicine & School of Life Sciences Research Ethics Committee (ref. 19/138).

Competing interests

No competing interests to declare.

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Table 1: Participant characteristics

Participant	Sex	Working on clusters at a National/Regional/ Local level	Role	Member of one of our selected clusters
P1	F	Local/Regional	Clinical Services Support Manager supporting multiple clusters within their Health and Social Care Partnership (HSCP)	Yes
P2	F	Local	Principal LIST Information Analyst	No
P3	F	Local	Cluster Quality Lead	Yes
P4	M	National	Retired GP active in policy and improvement	No
P5	M	National	Academic GP (practicing 1 day/week)	No
P6	F	National	NHS Health Scotland Officer, Primary Care Information dashboard working group member	No
P7	M	National	Principal analyst within a national health care statistics division	No
P8	F	Local	Practice manager	Yes
P9	M	National	GP involved in national work to develop clusters	No
P11	F	Local	Practice manager / practice business partner	Yes
P12	F	National/local	GP and Cluster Quality Lead involved in national work to develop clusters	No
P13	F	Local	Cluster Quality Lead	Yes
P15	M	National	GP involved in national work to develop clusters	No
P16	F	Local/Regional	Senior LIST Information Analyst	No
P17	M	Local	Practice Quality Lead	Yes
P21	F	National	NHS National Services Scotland Information Analyst	No
P22	F	Local	Practice manager	Yes

*P9/12/15 were all recruited due to being involved in also talking to colleagues in Scottish GP clusters (on behalf of RCGP), to understand how they felt about life after QOF. Covering all of Scotland between them these three participants shared their reflections with us, based on observing and discussing cluster development with over 100 Scottish colleagues (including >70 CQLs and >10 PQLs).

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